

| | | |
|--------------|----------|---|
| SANYO | No.1545B | 2SC3447 NPN Triple Diffused Planar Silicon Transistor FOR SWITCHING REGULATORS |
|--------------|----------|---|

Features

- High breakdown voltage and high reliability
- Fast switching speed (t_f : 0.1 μ s typ.)
- Wide ASO
- Adoption of MBIT process

Absolute Maximum Ratings at Ta=25°C

| | | | unit |
|------------------------------|------|--|------|
| Collector-to-Base Voltage | VCBO | 800 | V |
| Collector-to-Emitter Voltage | VCEO | 500 | V |
| Emitter-to-Base Voltage | VEBO | 7 | V |
| Collector Current | IC | 5 | A |
| Peak Collector Current | icp | PW \leq 300 μ s, Duty Cycle \leq 10% | |
| Base Current | IB | 2 | A |
| Collector Dissipation | PC | 50 | W |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature | Tstg | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

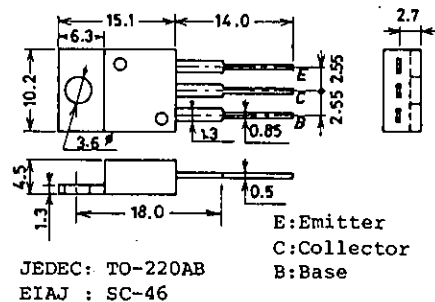
| | | | min | typ | max | unit |
|--------------------------|----------|----------------------|-----|-----|-----|---------|
| Collector Cutoff Current | ICBO | VCB=500V, IE=0 | | | 10 | μ A |
| Emitter Cutoff Current | IEBO | VEB=5V, IC=0 | | | 10 | μ A |
| DC Current Gain | hFE(1) | VCE=5V, IC=0.6A | 15* | | 50* | |
| | hFE(2) | VCE=5V, IC=3A | 8 | | | |
| Gain-Bandwidth Product | fT | VCE=10V, IC=0.6A | | 18 | | MHz |
| Output Capacitance | cob | VCB=10V, f=1MHz | | 80 | | pF |
| C-E Saturation Voltage | VCE(sat) | IC=3A, IB=0.6A | | | 1.0 | V |
| B-E Saturation Voltage | VBE(sat) | IC=3A, IB=0.6A | | | 1.5 | V |
| C-B Breakdown Voltage | V(BR)CBO | IC=1mA, IE=0 | 800 | | | V |
| C-E Breakdown Voltage | V(BR)CEO | IC=5mA, RE= ∞ | 500 | | | V |
| E-B Breakdown Voltage | V(BR)EBO | IE=1mA, IC=0 | 7 | | | V |

*: The hFE(1) of the 2SC3447 is classified as follows. When specifying the hFE(1) rank, specify two ranks or more in principle.

| | | | | | | | | |
|----|---|----|----|---|----|----|---|----|
| 15 | L | 30 | 20 | M | 40 | 30 | N | 50 |
|----|---|----|----|---|----|----|---|----|

Continued on next page.

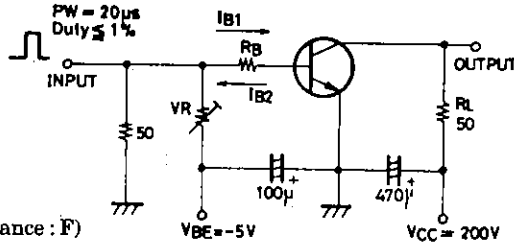
Package Dimensions 2010A
(unit:mm)



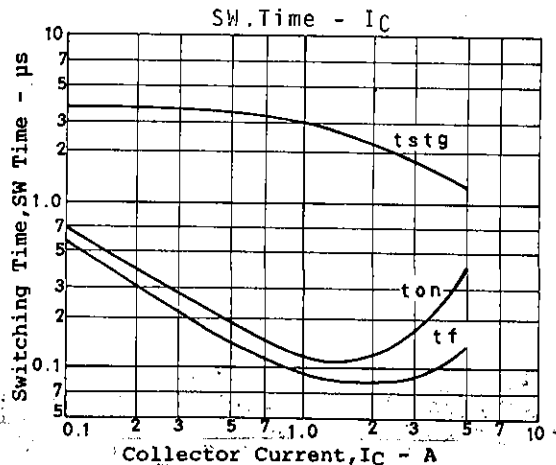
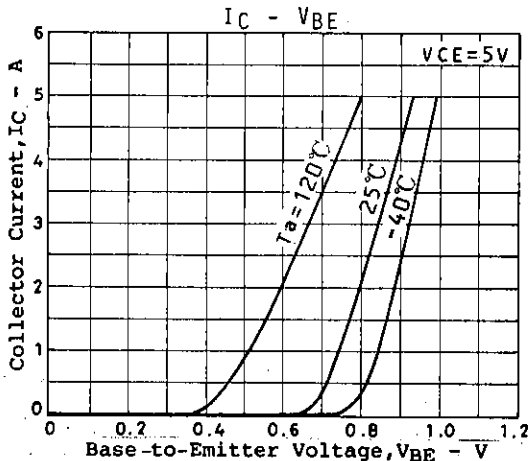
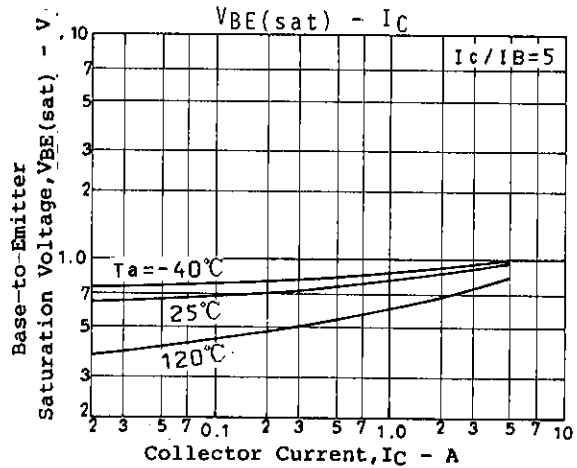
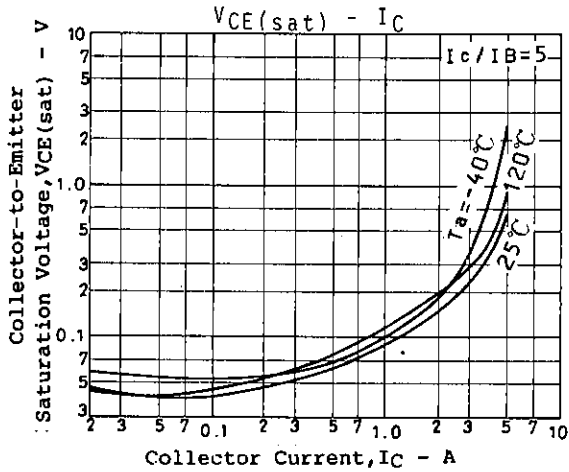
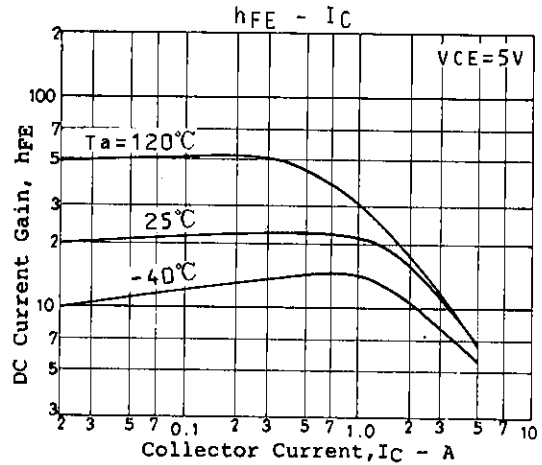
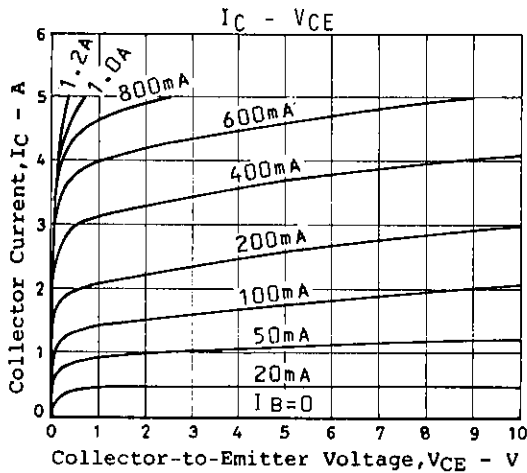
Continued from preceding page.

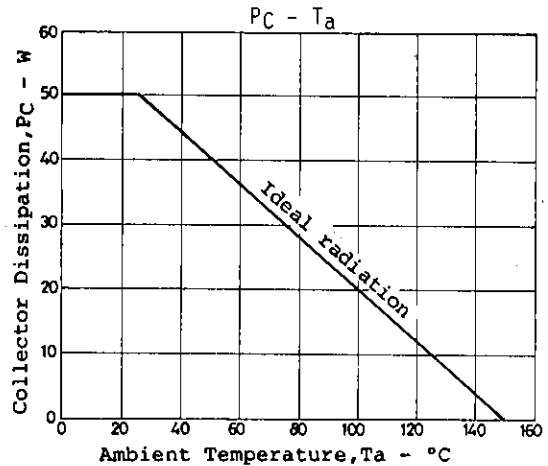
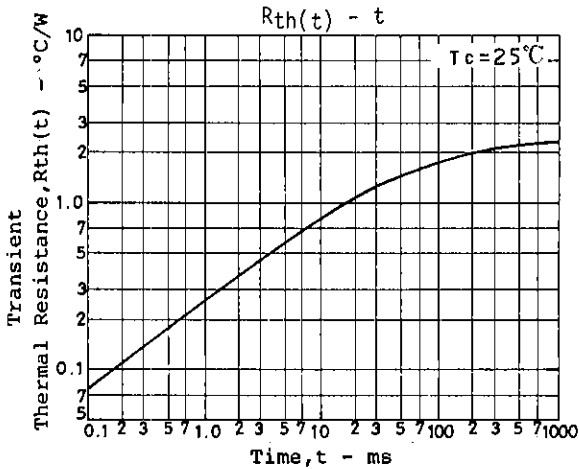
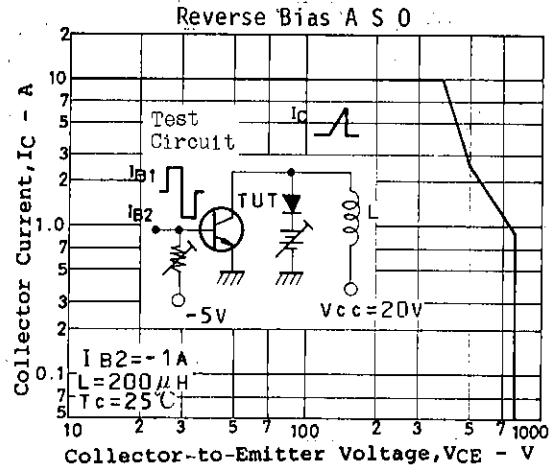
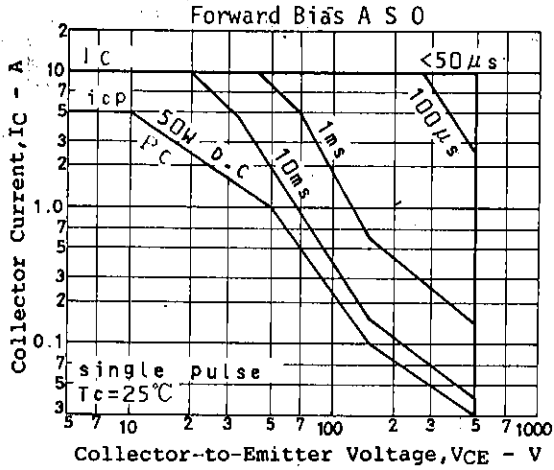
| | | | min | typ | max | unit |
|---------------------|----------------|--|-----|---------|-----|---------|
| C-E Sustain Voltage | $V_{CEX}(sus)$ | $I_C=2.5A,$ $I_{B1}=-I_{B2}=1A,$ $L=1mH, clamped$ | 500 | | | V |
| Turn-on Time | t_{on} | $V_{CC}=200V,$ $5I_{B1}=-2.5I_{B2}=I_C=4A,$ $R_L=50ohms$ | | | 0.5 | μs |
| Storage Time | t_{stg} | | 3.0 | μs | | |
| Fall Time | t_f | | 0.3 | μs | | |

Switching Time Test Circuit



Unit (Resistance : Ω , Capacitance : F)





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.